



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/629,848

07/30/2003

Alan Hochberg

037211-0108

6137

22428 7590 05/06/2009

FOLEY AND LARDNER LLP
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

SMITH, CAROLYN L

ART UNIT

PAPER NUMBER

1631

MAIL DATE

DELIVERY MODE

05/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/629,848	Applicant(s) HOCHBERG ET AL.	
	Examiner Carolyn Smith	Art Unit 1631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12312003, 11082005</u> . | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 1631

DETAILED ACTION

Drawings, filed 7/30/03, are accepted by the Examiner.

Claims herein under examination are 1-20.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-9 are drawn to a process. A process is statutory subject matter under 35 U.S.C. 101 if: (1) it is tied to a particular machine or apparatus or (2) it transforms an article to a different state or thing (In re Bilski, 88 USPQ2d 1385 Fed. Cir. 2008).

The claimed subject matter is not limited to a particular apparatus or machine. To qualify as a statutory process, the claims should require use of a machine within the steps of the claimed subject matter or require transformation of an article to a different state or thing. Insignificant extra-solution activity in the claimed subject matter will not be considered sufficient to convert a process that otherwise recites only mental steps into statutory subject matter (In re Grams 12 USPQ2d 1824 Fed. Cir. 1989). Preamble limitations that require the claimed process to comprise machine implemented steps will not be considered sufficient to convert a process that otherwise recites only mental steps into statutory subject matter. It is noted that the instant claim 1 recites

Art Unit: 1631

“transforming the functions into time invariant form”; however, this transformation (i.e. data changing to different data) is not a transformation of an article to a different state or thing. It is further noted that claims 1-9 do not explicitly require that the steps of the claimed method are performed on a machine. Applicant is cautioned against introduction of new matter in an amendment.

Claims 10-16 are drawn to a computer program product which is not statutory subject matter. As stated in MPEP 2106:

Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized.

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions.

Only when the claimed invention taken as a whole is directed to a mere program listing, i.e., to only its description or expression, is it descriptive material per se and hence nonstatutory. Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and a claim for a computer program, without the computer-readable medium needed to realize the computer program's functionality, should be treated as nonstatutory functional descriptive material.

The applicants may overcome the rejection by amendment of the claims to be encoded on a computer-readable medium that is limited to physical forms of a computer readable medium described in the specification.

Art Unit: 1631

Claims 1-20 are drawn to a process, a computer program product that executes a process, and a system that performs a process. For a process that comprises an abstract idea to be statutory, it must comprise a practical application of the abstract idea. Claimed subject matter may require a practical application by claiming, or requiring use of, a machine, or by requiring a physical transformation of an article to a different state or thing (In Re Bilski (88 USPQ2d 1385 Fed. Cir. 2008)). Even if claimed subject matter claims, or requires use of, a machine, the claimed subject matter may not require a practical application. One indication that claimed subject matter requires a practical application is an explicit requirement of a useful concrete, and tangible result as discussed in In re Alappat (31 USPQ2d 1545 Fed. Cir. 1994):

Although many, or arguably even all, ²² of the means elements recited in claim 15 represent circuitry elements that perform mathematical calculations, which is essentially true of all digital electrical circuits, the claimed invention as a whole is directed to a combination of interrelated elements which combine to form a machine for converting discrete waveform data samples into anti-aliased pixel illumination intensity data to be displayed on a display means. ²³ This is not a disembodied mathematical concept which may be characterized as an “abstract idea,” but rather a specific machine to produce a useful, concrete, and tangible result.

The instant claims do not result in a physical transformation, thus the Examiner must determine if the instant claims include a practical application (i.e. useful, concrete, and tangible result). In determining if the claimed subject matter produces a useful, concrete, and tangible result, the Examiner must determine each standard individually. For a claim to be “useful” the claim must produce a result that is specific and substantial. For a claim to be “concrete” the

Art Unit: 1631

process must have a result that is reproducible. For a claim to be “tangible” the process must produce a real world result. Furthermore, the claim must be limited only to statutory embodiments.

Claims 1-20 do not require production of a tangible result in a form that is understandable to the user of the process or apparatus. A tangible result requires that the claim must set forth a practical application to produce a real-world result. This rejection could be overcome by amendment of the claims to recite that a result of the process is outputted to a display, to a user, in a graphical format, or in a user readable format, or by including a physical transformation. The applicants are cautioned against introduction of new matter in an amendment.

Claim Rejections – 35 USC §102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5-7, 9-11, 13-14, and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamen (5,682,901).

Kamen discloses an information processing method, program product, and system for synchronization of disease progression data of individual patients (abstract; col. 1, fourth and fifth paragraphs), comprising:
receiving disease progression data in an aperiodic form;

Art Unit: 1631

representing the disease progression data as a set of functions having finite asymptotic values; and clustering parameters of the set of functions,

wherein the step of representing the disease progression data as a set of functions comprises transforming the functions into time invariant form and thereby synchronizing individual patient data that is clustered, as well as curve fitting, (col. 2, line 11 to col. 3, lines 52; col. 4, last paragraph; col. 5, first paragraph; col. 7, second to fifth paragraphs “tests done at various times of the day”; col. 8, first paragraph to col. 13, first paragraph “data samples taken for 24 to 40 minutes”; col. 19-24), as stated in instant claims 1, 2, 10, 11, 17, and 20.

Kamen discloses using statistical error in determining function parameters as a weighting for use in a distance function (col. 5, first paragraph; col. 9, third and fifth paragraphs; col. 10, lines 37-50), as stated in instant claim 5.

Kamen discloses transforming functions into time invariant form comprising determining an unambiguous time point on the shape of the function curve, including an x-intercept of the function curve (i.e. col. 15, 16; Figure 12; col. 6, third paragraph; col. 14, last paragraph), as stated in instant claims 6, 7, 13, 14, 18-19.

Kamen discloses filtering out data (col. 8, first paragraph; col. 9, fourth paragraph, col. 14, second and third paragraphs), as stated in instant claims 9, 16.

Thus, Kamen anticipates the limitations in claims 1, 2, 5-7, 9-11, 13-14, and 16-20.

Other references

Although not being used as prior art, the following references are being made of record:

Ralph et al. (US 6,190,857) discusses detecting disease states that affect gene expression, monitoring disease progression using logistic curves.

Guyon et al. (US 2008/097939 A1) discusses data mining gene expression data and determining relationships between genes and disease via clustering and looking at asymptotic behavior.

Conclusion

No claim is allowed.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR §1.6(d)). The Central Fax Center number for official correspondence is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

Art Unit: 1631

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carolyn Smith, whose telephone number is (571) 272-0721. The examiner can normally be reached Monday through Thursday from 8 A.M. to 6:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marjorie Moran, can be reached on (571) 272-0720.

April 16, 2009

/Carolyn Smith/
Primary Examiner
AU 1631